



S/N 09/903,412

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Shohei Koide	Examiner:	Teresa D. Wessendorf
Serial No.:	09/903,412	Group Art Unit:	1639
Filed:	July 11, 2001	Docket No.:	17027.003US1
Title:	ARTIFICIAL ANTIBODY POLYPEPTIDES		

---

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In accordance with the duty imposed by 37 C.F.R. § 1.156, and in accordance with 37 C.F.R. §§ 1.97 *et. Seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Supplemental Information be entered and the documents listed on the attached Form PTO/SB/08A be considered by the Examiner and made of record. Pursuant to provisions of MPEP 609, Applicant requests that a copy of the Form PTO/SB/08A, initial as being considered by the Examiner, be returned to the Applicant with the next official communication.

This filing is being made with the filing of a Request for Continued Examination. No fee is required.

CERTIFICATE UNDER 37 CFR 1.8: The undersigned certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 21<sup>st</sup> day of September 2005.

Lynda Mau  
Typed or Printed Name of Person Signing Certificate

Lynda Mau  
Signature

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Serial Number: 09/903,412

Filing Date: July 11, 2001

Title: ARTIFICIAL ANTIBODY POLYPEPTIDES

---

Page 2

Dkt: 17027.003US1

The Examiner is invited to contact the Applicant's Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

SHOHEI KOIDE

By his Representatives,

VIKSNINS HARRIS & PADYS PLLP

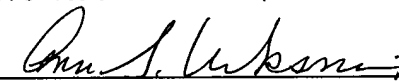
P.O. Box 111098

St. Paul, MN 55111

(952) 876-4091

Date 21 September 2005

By



Ann S. Viksnins

Reg. No. 37,748



Under the Patent Work Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08A (07-05)  
Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 25

### Complete if Known

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 6,348,584	02-19-2002	Hodgson et al.	
		US- 6,673,901	01-09-2004	Koide	
		US- 6,703,199	03-09-2004	Koide	
		US- 6,462,189	10-08-2002	Koide	
		US- 6,391,855	05-21-2002	Blaschuk et al.	
		US- 6,818,418	11-15-2004	Lipovsek et al.	
		US- 2003/0027319	02-06-2003	Koide	
		US- 2003/0108948	06-12-2003	Koide	
		US- 2003/0134386	07-17-2003	Koide	
		US- 2003/0170753	09-11-2003	Koide	
		US- 2003/0186385	10-02-2003	Koide	
		US- 2004/0259155	12-23-2004	Chan et al.	
		US- 2005/0038229	02-17-2005	Lipovsek et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		WO-94/24278	10-27-1994	Davis, Claude		
		WO-95/27045	10-12-1995	Smith, Rodger.G.		
		WO-94/18221	08-18-1994	Barbas et al.		
		WO-98/56915	12-17-1998	Koide, Shohei		
		WO-00/34784	06-15-2000	Lipovsek, Dasa		
		JP-8-511417	03-12-1996	Davis et al.		

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

[illegible]

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	MM-DD-YYYY			
		WO-01/64942	09-07-01	Lipovsek et al		
		WO-04/019878	03-11-04	Afeyan et al.		
		WO-05/056764	06-23-05	Chen et al.		

Date  
Considered

*If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.*

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

<b>Sheet</b> 3 <b>of</b> 25	<b>Application Number</b>	09/903,412
	<b>Filing Date</b>	July 11, 2001
	<b>First Named Inventor</b>	Shohei Koide
	<b>Art Unit</b>	1639
	<b>Examiner Name</b>	Teresa D. Wessendorf
	<b>Attorney Docket Number</b>	17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Alzari et al., "Three-dimensional structure of antibodies," Annu. Rev. Immunol., 1998, 555-580	
		Archer et al., "An alternative 3D NMR technique for correlating backbone 15N with side chain Hb resonances in large proteins," J. Magn. Reson., 1991, 95:636-641	
		Aukhil et al., "Cell-and heparin-binding domains of the hexabrachion arm identified by tenascin...", J. Biol. Chem. 1993, 268:2542-2553	
		Barbas, C.D., et al., "Semisynthetic combinatorial antibody libraries: A chemical solution to the diversity problem", Proc. Natl. Acad. Sci. USA, 89, 4457-4461 (1992).	
		Barbas, C.F., et al., "Assembly of combinatorial antibody libraries on phage surfaces: The gene III site", Proc. Natl. Acad. Sci. USA, 88, 7978-7982 (1991).	
		Baron, M., et al., "Protein modules", TIBS, vol. 16, 13-17, (Jan. 1991).	
		Baron et al., "H NMR assignment and secondary structure of the cell adhesion type III module of fibronectin," Biochemistry, 1992, 31:2068-2073	
		Bass et al., "Hormone phage: An enrichment method for variant proteins with altered binding properties," Proteins: Struct. Funct. Genet., 1990, 8:309-314	
		Bax and Grzesiek, "Methodological advances in protein NMR," Acc. Chem. Res., 1993, 26:131-138	
		Bazan, J.F., "Structural design and molecular evolution of a cytokine receptor superfamily", Proc. Natl. Acad. Sci. USA, vol. 87, 6934-6938, (Sep. 1990).	

<b>Examiner Signature</b>		<b>Date Considered</b>	
---------------------------	--	------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 4 of 25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Becktel and Schellman, "Protein stability curves," Biopolymer 1987, 26:1859-1877	
		Berggard et al., "Fragment complementation studies of protein stabilization by hydrophobic core residues," Biochemistry, 2001, 40:1257-1264	
		Bhat et al., "Bound water molecules and conformational stabilization help mediate an antigen-antibody association," Proc. Natl. Acad. Sci. USA, 1994, 91:1089-1093	
		Bork, P., et al., "Proposed acquisition of an animal protein domain by bacteria", Proc. Natl. Acad. Sci. USA, 89, 8990-8994 (1992).	
		Bork, P., et al., "Review: The Immunoglobulin Fold--Structural Classification, Sequence Patterns and Common Core", J. Mol. Biol., vol. 242, 309-320, (1994).	
		Billeter et al., "Precise vicinal coupling constants 3JHNa in proteins from nonlinear fits of J-modulated [15N, 1H]-COSY experiments," J. Biomol. NMR, 1992, 2:257-274	
		Bodenhausen and Ruben, "Natural abundance nitrogen-15 NMR by enhanced heteronuclear spectroscopy," Chem. Phys Lett. 1980, 69:185-189	
		Boder and Wittrup, "Yeast surface display for screening combinatorial polypeptide libraries," Nat Biotechnol., 1997, 15:553-557	
		Boder and Wittrup, "Yeast surface display for directed evolution of protein expression, affinity, and stability," Methods Enzymol., 2000, 328:430-444	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 5 of 25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Burke et al., Phage display of peptides and proteins, 1996, (Kay et al., Ed.), pp. 305-326, Academic Press, San Diego	
		Burgess et al., The Journal of Cell Biology 111:2129-38, 1990.	
		Campbell, I.C., et al., "Building proteins with fibronectin type III modules", Structure, vol. 2, 333-337, (May 15, 1994).	
		Chen et al., "Mapping the binding interfaces of the proteins of the bacterial phaphotransferase system, HPr and IIAglc," Biochemistry, 1993, 323:32-37	
		Chen et al., "Characterization of the WW Domain of Human Yes-associated Protein and Its Polyproline-containing Ligands," J. of Biol. Chem., 1997, 272(27):17070-17077	
		Clarke et al., J Mol Biol., 1997, 270:771-778	
		Clakson, T., et al., "In vitro selection from protein and peptide libraries", Trends in Biotechnology, 12, 173-184 (1994).	
		Clore, G.M., et al., "Structures of Larger Proteins in Solution: Three-and Four-Dimensional Heteronuclear NMR Spectroscopy", Science, 252, 1390-1399 (1991).	
		Conrath et al., "Camel Single-domain antibodies as modular building units in bispecific and bivalent antibody constructs," J. Biol. Chem. 276(10):7346-7350 (2001).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 6

of

25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Connolly, "Solvent-accessible surfaces of proteins and nucleic acids," Science, 1983, 221:709-713	
		Cordingley et al., "Substrate requirements of human rhinovirus 3C protease for peptide cleavage in vitro," J Biol Chem., 1990, 265:9062-9065	
		Corey et al., "Trypsin display on the surface of bacteriophage," Gene, 1993, 128:129-134	
		Cota, E., et al., "Two proteins with the same structure respond very differently to mutation: The role of plasticity...", J. Mol. Biol., vol. 302, 713-725, (2000)	
		Cota and Clarke, Protein Sci., 2000, 9:112-120	
		Creighton, Proteins: structures and molecular properties, 1993, Freeman New York, pp.38-40	
		Davies and Riechmann, "Single antibody domains as small recognition units: design and in vitro antigen selection ...", Protein Eng., 1996, 9(6):531-537	
		Davies, J., et al., "Antibody VH Domains as Small Recognition Units", Bio/Technol., 13, 475-479 (1995).	
		Delaglio et al., "NMRPipe: a multidimensional spectral processing system based on UNIX pipes," J. Biomol. NMR, 1995, 6:277-293	
		Deng and Nickoloff, "Site-directed mutagenesis of virtually any plasmid by eliminating a unique site," Anal. Biochem., 1992, 200:81-88	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

<b>Application Number</b>	09/903,412	
	<b>Filing Date</b>	July 11, 2001
	<b>First Named Inventor</b>	Shohei Koide
	<b>Art Unit</b>	1639
	<b>Examiner Name</b>	Teresa D. Wessendorf
<b>Attorney Docket Number</b>	17027.003US1	

Sheet 7 of 25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		de Prat Gay and Fersht, "Generation of a family of protein fragments for structure-folding studies...", Biochemistry, 1994, 33:7957-7963	
		Desiderio, A., et al., "A semi-synthetic repertoire of intrinsically stable antibody fragments...", J. Mol. Biol., vol. 310, pp. 603-615 (2001)	
		de Vos et al., "Human Growth hormone and extracellular domain of its receptor: crystal structure of the complex," Science, 1992, 255:306-312	
		Dickinson et al., "Crystal structure of the tenth type III cell adhesion module of human fibronectin," J. Mol. Biol., 1994, 236, 1079-1092	
		Dill, Biochemistry, 1990, 29:7133-7155	
		Djavadi-Ohanian et al., Antibody Engineering. A Practical Approach, (McCafferty et al., Ed.), pp. 77-97, Oxford Univ. Press, Oxford	
		Doolittle, R.F., "The multiplicity of domains in proteins", Annu. Rev. Biochem., vol. 64, 287-314, (1995).	
		Dougall, W.C., et al., "Antibody-structure-based design of pharmacological agents", Trends in Biotechnology, 12, 372-379 (1994).	
		Duttweiler, "A highly sensitive and non-lethal $\alpha$ -galactosidase plate assay for yeast," Trends in Genetics, 1996, 12:340-341	
		Dwyer et al., "High Affinity RNase S-peptide Variants Obtained by Phage Display Have a Novel "Hot-Spot" of Binding Energy," Biochemistry, 2001, 40:13491-13500	

<b>Examiner Signature</b>		<b>Date Considered</b>	
---------------------------	--	------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 8

of

25

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Ely, K.R., et al., "Common Molecular Scaffold for Two Unrelated RGD Molecules", Protein Engineering, 8, 823-827 (1995).	
		Farrow et al., "Backbone dynamics of a free and phosphopeptide-complexed Src homology 2 domain studied by 15N NMR relaxation," Biochemistry, 1994, 33:5984-6003	
		Fields and Song, "A novel genetic system to detect protein-protein interactions," Nature, 1989, 340:245-246	
		Finley and Brent, "Interaction mating reveals binary and ternary connections between Drosophila cell cycle regulators," Proc Natl Acad Sci USA, 1994, 91:12980-12984	
		Fujiwara et al., "A single-chain antibody/epitope system for functional analysis of protein-protein interactions, Biochemistry, 2002, 41:12729-12738	
		Garrett et al., "A common sense approach to peak picking in two-, three-, and four-dimensional spectra....," J. Magn. Reson., 1991, 95:214-220	
		Geyer and Brent, "Selection of genetic agents from random peptide aptamer expression libraries," Methods Enzymol., 2000, 328:171-208	
		Ghosh et al., "Structure of NF-kB p50 homodimer bound to a kB site," Nature, 1995, 373:303-310	
		Golemis and Serebriiskii, "Two-hybrid system/interaction trap," Cells: A laboratory manual, 1997, 69:1-40, CSH Laboratory Press, Cold Spring Harbor, NY	
		Green, S.M., et al., "Contributions of the polar, uncharged amino acids...", Biochemistry, 31(25), 5717-5728, (1992).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

<b>Application Number</b>	09/903,412		
	<b>Filing Date</b>	July 11, 2001	
	<b>First Named Inventor</b>	Shohei Koide	
	<b>Art Unit</b>	1639	
	<b>Examiner Name</b>	Teresa D. Wessendorf	
<b>Attorney Docket Number</b>	17027.003US1		

Sheet 9 of 25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Gribskov et al., "The codon preference plot: graphic analysis of protein coding sequences and prediction of gene expression," Nuc. Acids. Res., 1984, 12:539-549	
		Grimsley et al., Protein Sci., 1999, 8:1843-1849	
		Gronenborn et al., "A novel, highly stable fold of the immunoglobulin binding domain of Streptococcal protein G," Science, 1991, 253:657-661	
		Gronenborn and Clore, "Identification of the contact surface of a Streptococcal protein G domain complexed with a human Fc fragment," J. Mol. Biol., 1993, 233:331-335	
		Grumet et al., The Journal of Cell Biology 113:1399-1412, 1991.	
		Grzesiek et al., "Correlation of backbone amide and aliphatic side-chain resonances in 13C/15N-enriched proteins....," J. Magn. Reson. B, 1993, 101:114-119	
		Grzesiek and Bax, "Correlating backbone amide and side chain resonances in larger proteins by multiple relayed triple resonance NMR," J. Am. Chem. Soc., 1992, 114:6291-6293	
		Grzesiek and Bax, "Amino acid type determination in the sequential assignment procedure of uniformly 13C/15N-enriched proteins," J. Biomol. NMR, 1993, 3:185-204	
		Gyuris et al., "Cdil, a human G1 and S phase protein phosphatase that associates with Cdk2," Cell, 1993, 75:791-803	
		Harpez and Chothia, "Many of the immunoglobulin superfamily domains in cell adhesion molecules ...," Mol. Biol., 1994, 238:528-539	

<b>Examiner Signature</b>		<b>Date Considered</b>	
---------------------------	--	------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	09/903,412
		Filing Date	July 11, 2001
		First Named Inventor	Shohei Koide
		Art Unit	1639
		Examiner Name	Teresa D. Wessendorf
Sheet 10 of 25	Attorney Docket Number	17027.003US1	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Hawkins et al., "The contribution of contact and non-contact residues of antibody in the affinity...", Mol. Biol., 1993, 234:958-964	
		Hawkins et al., "Selection of phage antibodies by binding affinity. Mimicking affinity maturation," J. Mol. Biol., 1992, 226:889-896	
		Helms et al., Protein Science 4:2073-81, 1995.	
		Helms et al., Protein Science, "Proteolytic excision and in situ cyclization of a bioactive loop from an REI-VL presentation scaffold," 3:1108-1113 (1994).	
		Hendsch et al., Biochemistry, 1996, 35:7621-7625	
		Hendsch and Tidor, Protein Sci., 1994, 3:211-226	
		Hennecke et al., "Random circular permutation of DsbA reveals segments that are essential for protein folding and stability," J Mol Biol., 1999, 286:1197-1215	
		Hoess, "Protein design and phage display," Chem Rev., 2001, 101:3205-3218	
		Holliger, P., et al., ""Diabodies": Small bivalent and bispecific antibody fragments", Proc. Natl. Acad. Sci. USA, 90, 6444-6448 (1993).	
		Holm, L. et al., "Mapping the protein universe", Science, vol. 273, p. 595-602, (Aug. 2, 1996).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 11 of 25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Holm, L., et al., "FSSP: select structural ...", Science, 273(5275) :595-60 <a href="http://jura.ebi.ac.uk:8765/holm/qz?filename=/data/research/fssp/lfnf.fssp">http://jura.ebi.ac.uk:8765/holm/qz?filename=/data/research/fssp/lfnf.fssp</a> , 3 pages (1996)	
		Honda et al., "Fragment reconstitution of a small protein: folding energetics of the reconstituted immunoglobulin...", Biochemistry, 1999, 38:1203-1213	
		Hu, S., et al., "Minibody: A Novel Engineered Anti-Carcinoembryonic Antigen Antibody Fragment (Single-Chain Fv-CH3) ...", Cancer Research, 56, 3055-3061 (1996).	
		Ikura and Bax, "Isotope-filtered 2D NMR of a protein-peptide complex: study of a skeletal muscle myosin...", J. Am. Chem. Soc., 1992, 114:2433-2440	
		Ikura et al., "Improved three-dimensional 1H-13C-1H correlation spectroscopy of a 13C-labeled protein using constant-time evolution," J. Biomol. NMR, 1991, 1:299-304	
		Jacobs and Schultz, "Catalytic antibodies," J. Am. Chem. Soc., 1987, 109:2174-2176	
		Janda, K.D., et al., "Chemical Selection for Catalysis in Combinatorial Antibody Libraries", Science, 275, 945-948 (1997).	
		Johnson and Blevins, J. Biomol. NMR, 1994, 4:603-614	
		Johnsson and Varshavsky, "Split ubiquitin as a sensor of protein interactions in vivo," Proc Natl Acad Sci USA, 1994, 91:10340-10344	
		Jones, "The immunoglobulin superfamily," Curr. Opin Struct. Biol., 1993, 3:846-852	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

<b>Sheet</b> 12 <b>of</b> 25	<b>Application Number</b>	09/903,412
	<b>Filing Date</b>	July 11, 2001
	<b>First Named Inventor</b>	Shohei Koide
	<b>Art Unit</b>	1639
	<b>Examiner Name</b>	Teresa D. Wessendorf
<b>Attorney Docket Number</b>		17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Jones et al., "Replacing the complementarity-determining regions in a human antibody with those from a mouse," Nature, 1986, 321:522-525	
		Jourdan and Searle, "Cooperative assembly of a nativelylike ubiquitin structure through peptide fragment complexation...", Biochemistry, 2000, 39:12355-123640	
		Kabsch and Sander, "Dictionary of protein secondary structure: pattern recognition of hydrogen-bonded and geometrical features," Biopolymers, 1983, 22:2577-2637	
		Kamtekar et al., "Protein design by binary patterning of polar and nonpolar amino acids," Science, 1993, 262(5140):1680-1685	
		Kapust et al., "Tobacco etch virus protease: mechanism of autolysis and rational design of stable mutants with wildtype catalytic proficiency," Protein Eng., 2001, 14:993-1000	
		Kauzmann, Adv. Prot. Chem., 1959, 14:1-63	
		Kay, "Field gradient techniques in NMR spectroscopy," Curr. Opinion Struct. Biol., 1995, 5:674-681	
		Kay et al., "Pure absorption gradient enhanced heteronuclear single quantum correlation spectroscopy with improved sensitivity," J. Am. Chem. Soc., 1992, 114:10663-10665	
		Kay et al., "Backbone dynamics of proteins as studied by 15N inverse detected heteronuclear NMR spectroscopy...", Biochemistry, 1989, 28:8972-8979	
		Kay, "Pulsed-Field Gradient-Enhanced Three-Dimensional NMR Experiment for Correlating...", J. Am. Chem. Soc. 1993, 115:2055-2057.	

<b>Examiner Signature</b>		<b>Date Considered</b>	
---------------------------	--	------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet <b>13</b> of <b>25</b>	<b>Application Number</b>	09/903,412
	<b>Filing Date</b>	July 11, 2001
	<b>First Named Inventor</b>	Shohei Koide
	<b>Art Unit</b>	1639
	<b>Examiner Name</b>	Teresa D. Wessendorf
<b>Attorney Docket Number</b>		17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Kay et al., "A Gradient-Enhanced HCCH-TOCSY Experiment for Recording Side-Chain 1H and 13C Correlations in H2O Samples of Proteins," J. Magn. Reson. B, 1993, 101:333-337	
		Kippen et al., "Folding of barnase in parts," Biochemistry, 1994, 33:3778-3786	
		Kohno et al., "A new general method for the biosynthesis of stable isotope-enriched peptides using a decahistidine-tagged ...," J. Biomol. NMR, 1998, 12:109-121	
		Koide et al., "Characterization of a folding intermediate of apoplastcyanin trapped by proline isomerization," Biochemistry, 1993, 284:12299-12310	
		Koide et al., "The fibronectin type III domain as a scaffold for novel binding proteins," J. Mol. Biol., 1998, 284:1141-1151	
		Koide, S., et al., "Directed Evolution...", Dept. of Biochemistry and Biophysics, University of Rochester Medical Center, Rochester, NY 14642. FASEB J. 11 No. 9, PA1155 (1997)	
		Koide et al., Biochemistry 1999, 38:4757-4767	
		Koide et al., "Stabilization of a fibronectin type III domain by the removal of unfavorable electrostatic...", Biochemistry, 2001, 40:10326-10333	

<b>Examiner Signature</b>		<b>Date Considered</b>	
---------------------------	--	------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet 14 of 25	Application Number	09/903,412
	Filing Date	July 11, 2001
	First Named Inventor	Shohei Koide
	Art Unit	1639
	Examiner Name	Teresa D. Wessendorf
Attorney Docket Number		17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Koide et al., "Probing protein conformational changes in living cells by using designer binding proteins: Application to the estrogen receptor," PNAS, 2002, 99:1253-1258	
		Komblitt et al., "Primary structure of human fibronectin: differential splicing may generate at least 10 polypeptides from a single gene," EMBO J., 1985, 4:1755-1759	
		Kraulis, "MOLSCRIPT: a program to produce both detailed and schematic plots of protein structures" J. Appl. Cryst., 1991, 24:946-950	
		Kuhlman et al., Biochemistry, 1999, 38:4896-4903	
		Kunkel, "Rapid and efficient site-specific mutagenesis without phenotypic selection." Proc. Natl. Acad. Sci. USA, 1985, 82:488-492	
		Ladurner et al., "Complementation of peptide fragments of the single domain protein chymotrypsin inhibitor 2," J Mol Biol., 1997, 273:317-329	
		Lazar et al., Molecular and Cellular Biology 8:1247-1252, 1988. 8(3):1247-1252	
		Leahy et al., Cell, 1996, 84:155-164	
		Leahy et al., "Structure of a fibronectin type III domain from tenascin phased by MAD analysis of the selenomethionyl protein," Science, 1992, 258:987-991	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 15 of 25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Lee, G., et al., "Strong Inhibition of Fibrinogen Binding to Platelet Receptor .alpha..sub.IIb.beta..sub.3 by RGD Sequences...", Protein Engineering, 6, 745-754 (1993).	
		Lee et al., "Three-dimensional solution structure of a single zinc finger DNA-binding domain," Science, 1989, 245:635-637	
		Lee et al., "A pulsed field gradient isotope-filtered 3D 13C HMQC-NOESY experiment for extracting intermolecular NOE contacts...", FEBS Lett., 1994, 350:87-90	
		Lerner, R.A., et al., "Using the Proces of Reactive Immunization to Induce Catalytic Antibodies...", Acta Chemica Scandinavica, 50, 672-677 (1996).	
		Li, B., et al., "Minimization of Polypeptide Hormone", Science, 270, 1657-1660 (1995). Martin, F., et al., "The affinity-selection...", EMBO J., 13, 5303-5309 (1994).	
		Lin et al., Biochemistry 14:1559-1563, 1975	
		Litvinovich et al., "Reversible unfolding of an isolated heparin and DNA binding fragment the first type III module from fibronectin," Biochim. Biophys. Acta, 1992, 1119:57-62	
		Logan et al., "Side chain and backbone assignments in isotopically labeled proteins from two heteronuclear triple resonance experiments," FEBS Lett., 1992, 314,:413-418	
		Loladze et al., Biochemistry, 1999, 38:16419-16423	
		Lowman et al., Biochemistry, 1991, 30:10832-10838	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	09/903,412
		Filing Date	July 11, 2001
		First Named Inventor	Shohei Koide
		Art Unit	1639
		Examiner Name	Teresa D. Wessendorf
Sheet 16	of 25	Attorney Docket Number	17027.003US1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Main et al., "The three-dimensional structure of the tenth type III module of fibronectin: an insight into RGD-mediated interactions," Cell, 1992, 71:671-678	
		Malakauskas and Mayo, Nat Struct Biol., 1998, 5:470-475	
		Marti-Renom, M.A., et al., "Comparative protein structure modeling of genes and genomes", Annu. Rev. Biophys. Biomol. Struct., vol. 29, 291-325, (2000).	
		Martin, M.T., "The Affinity-selection of minibody polypeptide inhibitor of human interleukin-6", EMBO J 13:5303-5309 (1994).	
		Martin, M.T., "Commercially valuable catalytic antibodies: The life to come", Drug Discovery Today, 1, 239-247 (1996).	
		Masat, L., et al., "A simpler sort of antibody", Proc. Natl. Acad. Sci. USA, 91, 893-896 (1994).	
		Matthews, B.W., "Structural and genetic analysis of protein stability", Annu. Rev. Biochem., vol. 62, 139-60, (1993).	
		McCafferty et al., "Phage antibodies: filamentous phage displaying antibody variable domains," Nature, 1990, 348:552-554	
		McClain et al., "Design and Characterization of a Heterodimeric Coiled Coil that Forms Exclusively...", J. Am. Chem. Soc., 2001, 123:3151-3152	
		McConnell, S.J., et al., "Tendamistat as a Scaffold...", Journal of Mol. Biol., 250, 460-470 (1995).	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet	17	of	25	Application Number	09/903,412
				Filing Date	July 11, 2001
				First Named Inventor	Shohei Koide
				Art Unit	1639
				Examiner Name	Teresa D. Wessendorf
				Attorney Docket Number	17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Merkel and Regan, "Modulating protein folding rates in vivo and in vitro by side-chain interactions between the parallel beta strands," J Biol Chem., 2000, 275:29200-29206	
		Metzler et al., "The three-dimensional solution structure of the SH2 domain from p55blk kinase," Biochemistry, 1996, 35:6201-6211	
		Michnick et al., "Detection of protein-protein interactions by protein fragment complementation strategies," Methods Enzymol., 2000, 328:208-230	
		Minor and Kim, "Measurement of the $\alpha$ -sheet-forming propensities of amino acids," Nature, 1994, 367:660-663	
		Muhandiram et al., "An enhanced-sensitivity pure absorption gradient 4D 15N,13C-edited NOESY experiment," J. Biomol. NMR, 1993, 3:463-470	
		Muller et al., "Structure of the NH-kB p50 homodimer bound to DNA," Nature, 1995, 373:311-117	
		Myers et al., Protein Sci., 1995, 4:2138-2148	
		Nicholls et al., "Protein folding and association: insights from the interfacial and thermodynamic properties of hydrocarbons," Proteins, 1991, 11:281-296	
		Nilges et al., "Determination of three-dimensional structures of proteins...", FEBS Lett., 1988, 229:317-324	
		Nilges et al., Computational aspects of the study of biological macromolecule..., 1991, (Hoch, J. C., Poulsen, F. M. and Redfield, C., Ed.), pp. 451-455, Plenum Press, New York	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet	18	of	25	Application Number	09/903,412
				Filing Date	July 11, 2001
				First Named Inventor	Shohei Koide
				Art Unit	1639
				Examiner Name	Teresa D. Wessendorf
				Attorney Docket Number	17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Ojennus et al., "Reconstitution of a native-like SH2 domain from disordered peptide fragments examined by multidimensional...", Protein Science, 2001, 10:2162-2175	
		Oakley et al., "A buried polar interaction can direct the relative orientation of helices in a coiled coil," Biochemistry, 1998, 37:12603-12610	
		O'Neil et al., Techniques in Protein Chemistry V, 1994, (Crabb, L., ed.) pp. 517-524, Academic Press, San Diego	
		O'Neil and Hoess, "Phage display: protein engineering by directed evolution," Curr. Opinion Struct. Biol., 1995, 5:443-449	
		Pabo et al., "Design and selection of novel Cys2His2 zinc finger proteins," Annu Rev Biochem., 2001, 70:313-340	
		Pace and Scholtz, "Measuring the conformational stability of a protein," Protein structure. A practical approach, 1997, (Creighton, T. E. Ed.) pp. 299-321, IRL Press, Oxford	
		Pace et al., Faseb J., 1996, 10:75-83	
		Pace et al., Biochemistry, 1992, 31:2728-2734.	
		Parmley et al., "Antibody-selectable filamentous fd phage vectors: affinity purification of target genes," Gene, 1988, 73:305-318	
		Pascal et al., "Nuclear magnetic resonance structure of an SH2 domain of phospholipase C-g1 complexed with a high affinity binding peptide," Cell, 1994b, 77:461-472	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet 19 of 25	Application Number	09/903,412
	Filing Date	July 11, 2001
	First Named Inventor	Shohei Koide
	Art Unit	1639
	Examiner Name	Teresa D. Wessendorf
Attorney Docket Number		17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Pascal et al., "Simultaneous acquisition of 15N-and 13C-edited NOEspectra of proteins dissolved in H2O," J. Magn. Reson. B, 1994a, 103:197-201	
		Patten et al., "Applications of DNA shuffling to pharmaceuticals and vaccines," Curr. Opin. Biotechnol. 1996, 8:724-733	
		Pelletier et al., "Oligomerization domain-directed reassembly of active dihydrofolate reductase from rationally designed fragments," Proc. Natl. Acad. Sci. USA, 1998, 95:12141	
		Perl et al., "Two exposed amino acid residues confer thermostability on a cold shock protein," Nat Struct Biol., 2000, 7:380-383	
		Perutz et al., J Mol Biol., 1985, 183:491-498	
		Pessi, A., et al., "A designed metal-binding protein with a novel fold", Nature, 362, 367-369 (1993).	
		Pierschbacher and Ruoslahti, Nature, 1984, 309:30-33	
		Plaxco et al., Proc. Natl. Acad. Sci. USA, 1996, 93:10703-10706	
		Plaxco et al., J. Mol. Biol., 1997, 270:763-770	
		Rader and Barbas, "Phage display of combinatorial antibody libraries," Curr Opin Biotechn., 1997, 18:503-508.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet	20	of	25	Application Number	09/903,412
				Filing Date	July 11, 2001
				First Named Inventor	Shohei Koide
				Art Unit	1639
				Examiner Name	Teresa D. Wessendorf
				Attorney Docket Number	17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Raquet et al., "Detection of altered protein conformations in living cells," J Mol Biol., 2001, 305:927-938	
		Rees et al., "Antibody design: beyond the natural limits," Trends Biotechnol., 1994, 12:199-206	
		Roberts et al. Proc. Natl. Acad. Sci. USA, 1992, 89:2429-2433	
		Roberts et al., "Affinity maturation of proteins displayed on surface of M13 bacteriophage as major coat protein fusions," Methods Enzymol., 1996, 267:68-82	
		Rosenblum, J.S., et al., "Synthetic Antibodies", Antibody Engineering, Oxford University Press, Oxford, 89-116 (1995).	
		Suzuki, H., "Recent Advances in Abzyme Studies", J. Biochem., 115, 623-628 (1994).	
		Sali et al., J. Mol. Biol., 1991, 220:779-788	
		Sancho and Fersht, "Dissection of an enzyme by protein engineering...", J Mol Biol., 1992, 224:741-747	
		Sandhu et al., "Dual asymmetric PCR: onestep construction of synthetic genes," BioTech., 1992, 12:14-16	
		Santoro and Bolen, "Unfolding free energy changes determined by the linear extrapolation method. 1...", Biochemistry, 1988, 27:8063-8068	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 21

of

25

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Savchenko et al., "Pyrococcus furiosus alpha-Amylase Is Stabilized by Calcium and Zinc," Biochemistry, 2002, 41:6193-6201	
		Sblattero and Bradbury, "Exploiting recombination in single bacteria to make large phage antibody libraries," Nat Biotechnol., 2000, 18:75-80	
		Sblattero et al., "In vivo recombination as a tool to generate molecular diversity in phage antibody libraries," Biotechnol., 2001, 74:303-315	
		Schiweck, W., et al., "The rational construction of an antibody against cystatin...", J. Mol. Biol., vol. 268, 934-951, (1997).	
		Schwartz et al., Proc. Natl. Acad. Sci. USA 84:6408-6411, 1987.	
		Shortle, D., et al., "Contributions of the large hydrophobic amino acids to the stability of staphylococcal nuclease", Biochemistry, vol. 29, 8033-8041, (1990).	
		Shusta, E.V., et al., "Directed evolution of a stable scaffold for T-cell receptor engineering", Nature Biotechnology, vol. 18, pp. 754-759 (Jul. 2000).	
		Skerra, "Engineered protein scaffolds for molecular recognition," J Mol Recognit, 2000, 13:167-187	
		Smith and Scott, "Libraries of peptides and proteins displayed on filamentous phage," Methods Enzymol., 1993, 217:228-257	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 22

of

25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Smith, "Filamentous fusion phage: novel expression vectors that display cloned antigens on the virion surface," Science, 1985, 228:1315-1317	
		Smith and Regan, "Guidelines for protein design: The energetics of • sheet side chain interactions," Science, 1995, 270:980-982	
		Smith et al., "Studying a-helix and •-sheet formation in small proteins," Techniques Prot. Chem., 1995, 6:323-332	
		Smith et al., "A thermodynamic scale for the •-sheet forming tendencies of the amino acids," Biochemistry, 1994, 33:5510-5517	
		Smyth and von Itzstein, "Design and synthesis of a biologically active antibody mimic based on an antibody-antigen crystal structure," Am. Chem. Soc., 1994, 116:2725-2733	
		Spector et al., Biochemistry, 2000, 39:872-879	
		Studier et al., "Use of T7 RNA polymerase to direct expression of cloned genes," Methods Enzymol., 1990, 185:60-89	
		Suzuki, "Recent advances in abzyme studies," J. Biochem., 1994, 115:623-628	
		Tasayco and Chao, "NMR study of the reconstitution of the beta-sheet of thioredoxin by fragment complementation," Proteins, 1995, 22:41-44	
		Tasayco et al., "Interaction between two discontinuous chain segments...", Biochemistry, 2000, 39:10613-10618	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 23

of

25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Tello et al., "Immunoglobulin superfamily interactions," Biochem. Soc. Trans., 1993, 21:943-946	
		Thomas, N.R., "Hapten Design for the Generation of Catalytic Antibodies", Applied Biochemistry and Biotechnology, 47, 345-372 (1994).	
		Timasheff, Curr. Op. Struct. Biol., 1992, 2:35-39	
		van den Beucken, T., "Building novel binding ligands to B&1 and B&2 based on human antibody single variable light chain domains", J. Mol. Biol., vol. 310, pp. 591-601 (2001)	
		Verhoeyen et al., "Reshaping human antibodies: Grafting an antilysozyme activity," Science, 1988, 239:1534-1536	
		Venturini et al., Protein Peptide Letters, 1994, 1:70-75	
		Vuister and Bax, "Resolution enhancement and spectral editing of uniformly <sup>13</sup> C-enriched proteins by homonuclear broadband <sup>13</sup> C decoupling," J. Magn. Reson., 1992, 98:428-435	
		Vuister et al., "Increased resolution and improved spectral quality in four-dimensional <sup>13</sup> C/ <sup>13</sup> C-separated...", J. Magn. Reson. B, 1993, 101:210-213	
		Ward et al., "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli," Nature, 1989, 341:554-546	
		Webster et al., "Antibody-antigen interactions," Curr. Opinion Struct. Biol., 1994, 4:123-129	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 24

of

25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Williams and Barclay, Ann. Rev. Immunol., 1988, 6:381-405	
		Wilson and Stanfield, "Antibody-antigen interactions," Curr. Opinion Struct. Biol., 1993, 3:113-118	
		Wilson and Stanfield, "Antibody-antigen interactions: new structures and new conformational changes," Curr. Opinion Struct Biol., 1994, 4:857-867	
		Winter, Greg, "Making Antibodies by Phage Display Technology", Ann. Rev. Immunol., 12, 433-455 (1994).	
		Wiseman et al., "Rapid measurement of binding constants and heats of binding using a new titration calorimeter," Anal. Biochem., 1989, 179:131-137	
		Wittenkind and Mueller, "HNCACB, a high-sensitivity 3D NMR experiment to correlate amide-proton...", J. Magn. Reson. B, 1993, 101:201-205	
		Wittke et al., "Probing the molecular environment of membrane proteins in vivo," Mol Biol Cell., 1999, 10:2519-2530	
		Wu et al., "Length distribution of CDRH3 in antibodies," Proteins: Struct. Funct. Genet., 1993, 16:1-7	
		Yamazaki et al., "Segmental Isotope Labeling for Protein NMR Using Peptide Splicing," Journal of the American Chemical Society, 1998, 120(22):5591-5592	
		Yamazaki et al., "Two-Dimensional NMR Experiments for Correlating 13C-beta and...", J. Am. Chem. Soc., 1993, 115:11054	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

Sheet 25

of

25

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Yang and Honig, Curr. Opin. Struct. Biol., 1992, 2:40-45	
		Zhang et al., "Circular permutation of T4 lysozyme," Biochemistry, 1993, 32:12311-12318	
		Zhang et al., "Backbone 1H and 15N resonance assignments of the N-terminal SH3 domain of drk...", J. Biomol. NMR, 1994, 4:845-858	
		McIntosh et al., Biochemistry, 1996, 35:9958-9966	
		Li et al., "The metal ion binding properties of calreticulin...", Biochemistry, 2001, 40, 11193-12201.	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.